

Attorney Docket No.: J3682(C)  
Applicant: Adams et al.  
Serial No.: 10/521,981  
Filed: January 21, 2005  
For: Hair Care Composition

### REMARKS

This Amendment accompanies the filing of a Request for Continued Examination in the subject application. Entry thereof is respectfully requested.

Claim 1 has been amended to clarify the "comprising" and "consisting of" language, and to specify that the hair treatment mousse: comprises styling ingredient, carrier and, optionally, propellant components, wherein the styling ingredient consists of (i) 2-hydroxyalkanoic acid, (ii) optionally, styling polymer and (iii) optionally, neutralizing agent capable of reducing a portion of acid groups that may be present on the styling polymer. See, for example, page 8, lines 23 to 25. The hair treatment mousse is further described in the amended claim as including at least one member of the group consisting of 2-hydroxyhexanoic acid, 2-hydroxyoctanoic acid and 2-hydroxydecanoic acid, and as containing less than 2 wt% of surfactant. New claim 12 follows the format of claim 1, but specifies that the hair treatment mousse consists essentially of (a) 2-hydroxyalkanoic acid, (b) optionally, styling polymer, (c) optionally, neutralizing agent capable of reducing at least a portion of acid groups that may be present on the styling polymer, (d) carrier, (e) optionally, propellant, and (f) one or more additional components as therein more particularly described. Claim 2 has been amended to describe the 2-hydroxyalkanoic acid as consisting essentially of 2-hydroxyoctanoic acid. Claim 5 has been amended to specify styling polymer as a required component of the mousse. Claim 6 has been cancelled without prejudice. In view of the amendment of claim 1 (requiring the presence of carrier and, optionally, propellant in the mousse), claim 9 has been amended to delete such components from its list of additional components. Clarifying punctuation has been incorporated into Claim 10

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which Applicants respectfully submit overcomes the 35 U.S.C. § 112 rejection applied thereto.

New claim 13, depending from claim 1, further identifies the neutralizing agent. See, for example, the specification at page 8 line 23 to page 9, line 7. New claim 14 is an independent claim directed to a method of styling hair by applying to the hair a hair treatment mousse comprising (a) at least one 2-hydroxyalkanoic acid selected from the group consisting of 2-hydroxyhexanoic acid, 2-hydroxyoctanoic acid, and 2-hydroxydecanoic acid, (b) carrier and (c) propellant; wherein the hair treatment mousse (i) is free of a sulfonic acid and (ii) comprises less than 2 wt.% of surfactant. See, for example, Example 1, which is a composition in which a sulfonic acid or a salt thereof is absent. New claim 15, depending from claim 1, specifies that surfactant is absent from the hair treatment mousse. See for example page 9, lines 13 to 15. New claim 16, depending from claim 1, specifies that if surfactant is present, it is selected from the group consisting of non-ionic, amphoteric and zwitterionic surfactants, and mixtures thereof. See, for example, page 9, line 18 to page 11, line 9. New claim 17, depending from claim 1 specifies that the hair treatment mousse consists essentially of said styling ingredient, carrier and propellant. New claim 18, depending from claim 12, specifies that the hair treatment mousse consists of (a) 2-hydroxyalkanoic acid, (b) optionally, styling polymer, (c) optionally, neutralizing agent, (d) carrier, (e) propellant, and one or more of said additional components (f). New claim 19, depending from claim 1, specifies that the hair treatment mousse is free of styling polymer. See, for example, page 1, lines 24 to 26. New claim 20, depending from claim 1, specifies that the hair treatment mousse is dispensed from a pump aerosol container that utilizes compressed air. See, for example page 13, lines 9 to 13.

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Claims 1-5, 9 and 10 stand rejected under 35 U.S.C. §102(b) as anticipated by YUUKI (JP 09-092043); Claims 1-5 and 9 stand rejected under 35 U.S.C. §102(b) over Gallagher et al. (EP 0424158); claims 1-6 and 9-11 stand rejected under 35 U.S.C. §103 over YUUKI in view of Bolich (US 4,764,363); and claims 1-6 and 9-11 stand rejected under 35 U.S.C. §103 over Gallagher et al. in view of Bolich. These rejections are respectfully traversed.

YUUKI is directed to a method of a method of modifying hair which discloses that the combination of (a) a selected organic acid or a salt thereof and (b) a selected sulfonic acid (for example, 1-pentane sulfonic acid, 1-hexane sulfonic acid, benzene sulfonic acid, o-toluene sulfonic acid, 1 or 2-naphthalene sulfonic acid, and 2,7-naphthalene disulfonic acid) or a salt thereof can be used to correct naturally curly hair, when incorporated in a composition that includes an organic solvent (c) that allows such components to infiltrate into the hair. The organic acids (a) disclosed by YUUKI are selected from alkanolic acids, pyrrolidone carboxylic acids and benzoic acids described by its formulas a-1, a-2 and a-3, respectively; 2-hydroxyhexanoic acid is but one of the various organic acids exemplified by such formulas. The sulfonic acids disclosed by YUUKI have one or more groups of the formula – S(O)<sub>2</sub>OH and are represented by formulas that include aliphatic and aromatic acids (see formulas b-1, b-2 and b-3). Exemplary of the organic solvents disclosed by YUUKI are ethanol, isopropanol, 1-propanol, 1,3-butane diol, and hexylene glycol.

The “styling” disclosed by YUUKI is presented as a non-damaging hair modification (understood to be straightening of naturally curly hair) that is an alternative to hair relaxation or heat styling methods. YUUKI discloses that the naturally curly hair, so corrected, does not lose its corrected state even in an atmosphere of high temperature or after washing. See paragraphs 0002 through

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0006 of the citation. The use of the organic acid component (a) is taught as requiring the presence of the sulfonic acid component (b) to achieve effective hair modification. In Table 1, YUUKI, compares compositions containing a combination of benzoic acid, benzene sulfonic acid, and organic solvent to various comparative compositions. Results are summarized in paragraph [0047] as follows:

As shown in Table 1, the naturally curly hair is corrected and this condition was maintained even when it was kept in the high temperature atmosphere and when it was washed. In contrast to this, in Comparative Examples 1 ~ 3 where any one of benzene sulfonic acid or organic solvent was not contained, the naturally curly hair was almost not corrected and, even when some site was corrected, it returned to the condition before the correction when left in the high temperature atmosphere and when washed. Also, even if the benzoic acid and benzene sulfonic acid were contained, if the content of the organic solvent was lower than the lower limit value of the preferred value of this invention as in Comparative Example 4 and, when the pH was not in the acidic range as in Comparative Example 5, the result was inferior compared to Examples of Application 1 ~ 11 although it was better when compared with Comparative Examples 1 ~ 2. (Emphasis added; see English translation of record).

Thus, compositions that contained a combination of organic acid and sulfonic acid were shown to have significantly different performance with respect to hair modification, compared to a composition in which either of these components was absent.

It is respectfully submitted that the "consisting of " language employed by amended claim 1 in its description of the styling ingredient of the subject hair treatment mousses excludes compositions as described by YUUKI which requires the presence of a sulfonic acid component to act in combination with its organic acid component to achieve the hair modification benefits therein described. Sulfonic

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Serial No.: 10/521,981  
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acid and salts thereof are believed to be excluded from the compositions described by independent claims 12 and 14. In view of the instant amendments, it is respectfully submitted that the amended claims overcome the 35 U.S.C. §102(b) rejection over YUUKI.

Gallagher et al. is directed to shampoo compositions that contain 2-hydroxyalkanoic acid, from 2 to 40% by weight of surfactant, and a co-acid buffering agent. It is respectfully submitted that there is nothing in Gallagher that discloses or suggests hair treatment mousses that contain less than 2 wt.% surfactant as required by the amended claims. Contrary to the statement in the Office Action, Example 4 of Gallagher et al. contains in excess of 2 weight percent of surfactant, as it includes, among other components, from 10.0 wt% of a C<sub>12</sub>-C<sub>14</sub> alkyl benzene sulphonate and 4.5 wt.% of glucamate DOE 120.

Bolich et al. (cited for its disclosure of the use of propellant in mousse) fails to cure the deficiencies of the primary citations and even if combined with YUUKI or Gallagher et al. fails to disclose or suggests the methods described by the amended claims.

Styling mousse compositions commonly contain a polymeric resin as an active ingredient in providing styling. Other ingredients commonly used in styling mousses are solvent (which may function, at least in part, to solubilize the polymeric resin), surface active agent (which may function, at least in part, to provide desirable foam properties) and, the case of aerosol foam mousses, propellant. In addition to providing desirable the styling, the subject inventors have found that the inclusion of at least one member of the group consisting of 2-hydroxyhexanoic acid, 2-hydroxyoctanoic acid and 2-hydroxydecanoic acid allows formulators to provide

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mousse compositions that provide desirable styling properties, without the need for styling polymer. The subject inventors have further been found that compositions containing such 2-alkanoic acids can be formulated into desirable mousse formulations with little or no surfactant. Moreover, pursuant to the subject invention it was found that compositions that contain such 2-alkanoic acids can be formulated to be dispensed from aerosols that employ compressed air. See, for example, the table at page 15 of the subject application where a composition containing 1% 2-hydroxyoctanoic acid and water (Test Compound 2) dispensed from a "non-propellant based" mousse can was found to provide "good style retention", as did a composition that contained 4% by weight of 2-hydroxyoctanoic acid, 8% CAP 40 propellant and water (Test Compound 1) dispensed from a "propellant" mousse can (the curls of the tested wiglets having opened slightly more in the case of Test Compound 2 than in the case of Test Compound 1). It is respectfully submitted that there is nothing in YUUKI, Gallagher et al. or Bolich that, alone or in combination, suggests the formulation of styling mousses that are both free of styling polymer and contain little or no surfactant as in new claim 19.

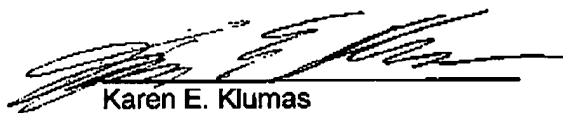
With respect to the provisional double patenting rejection over Serial No. 10/506,374, Applicants reserve the right to file a terminal disclaimer, as appropriate, upon the indication of allowable subject matter.

In view of the amendments and remarks set forth above, reconsideration and allowance of the subject claims is respectfully requested.

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If a telephone conversation would be of assistance in advancing the prosecution of the present application, applicants' undersigned attorney invites the Examiner to telephone at the number provided.

Respectfully submitted,



Karen E. Klumas  
Registration No. 31,070  
Attorney for Applicant(s)

KEK/sa  
(201) 894-2332